Appendix III/IV.L Transportation

III/IV.L-8: Fjord Trail Visitation Projection

Fjord Trail Use Projections – Updated 8/21/2024

A detailed visitation projection has been carried out to estimate *anticipated future visitation to Fjord Trail. The following summary conveys estimated visitation today along the 7.5-mile route and projected future visitation with, and without, the trail.*

Key Points of this Summary

Visitors vs visitation. Most users of the Hudson Highlands area are repeat visitors – survey results indicate that, on average, each individual generates over 8 individual visits each year. Thus, the annual visitation figures correspond to a much lower number of individual people.

Total visits to the corridor today. Visitation to the parks and trails in the Hudson Highlands area which comprise the Fjord Trail corridor for 2023 is estimated at 444,400 (about 55,550 individual people).

Projecting on a range. To account for a full range of potential future scenarios that can impact visitation (including economic conditions, etc.), the likely range of visitation levels was projected for Fjord Trail.

Anticipated new visitation. It is estimated that Fjord Trail will draw 268,700 new visits to the Hudson Highlands area in 2033 (the estimated first stabilized year after full build-out).

Anticipated annual usage. Total Fjord Trail visitation is projected at 637,000 in 2033, including all visitation components as discussed in this report.

Key Terms of this Summary

Fjord Trail Corridor. The area near Route 9D between Cold Spring and Beacon which includes several very popular trail and park spaces within the greater Hudson Highlands State Park Preserve.

Hudson Highlands State Park Preserve (HHSPP). A mostly undeveloped park preserve of over 8,000 acres with over 70 miles of trail, consisting of a series of separate parcels of land stretching from Annsville Creek in Peekskill north to Dennings Point in Beacon.

Design Day. The Design Day represents a typical weekend day during a high visitation month, such as May, September, or October and provides a visitation level for planning purposes at which the public areas and facilities of a venue should be designed to ensure a comfortable visitation experience. It is defined as the daily visitation level at which 15% of the annual visitation occurs on days at or above the Design Day level. For Fjord Trail, about 21 days per year can be expected with visitation at or above the Design Day level.

Peak Day. The Peak Day represents one of the highest visitation days of the year, and can be expected to occur during the peak Fall foliage season. It is defined as the average of the 2nd and 3rd highest visitation days of the year and is used for planning purposes to ensure that this daily visitation level can be

accommodated with maintaining acceptable crowding conditions through the implementation of visitation management strategies where appropriate.

"Visitation"- Trail usage versus total visitors

When we think of visitors, we generally think about people coming from elsewhere to where we are. In the case of estimating visitation to a park – or a downtown main street, museum, or any public space – the people visiting are a mix of people who live in the community, the community next door, and further away.

Depending on if they are local or from further away, their number of visits will vary. A local might go to their favorite coffee shop each day whereas a visitor only goes when they are in the area. In terms of counting - the total number of visits (times a person goes to a location) does not equate to the total number of visitors (one person could generate 10 visits or 50 visits, depending on their use rate).

When we estimate use of a trail like the Fjord Trail, there are a number of ingredients:

- **Captured Use** - Who is using a destination along the future trail route now that will become Fjord Trail users by default? For example, all hikers of Breakneck will be counted as Fjord Trail visitors as they will have to walk on the Fjord Trail to get to the Breakneck Trailhead. The same is true for Dennings Point or Little Stony Point as all of that area would be under the Fjord Trail's operations and management.
- **Add-on Use** - Who is using destinations along the trail route now who might also visit the Fjord Trail when it's completed, but for whom the Fjord Trail is not the primary destination? This could be a Seastreak visitor to Main Street with extra time who opts to walk over to Little Stony Point as they wait for the boat, it could be a local couple going out to eat and then taking a stroll along the shoreline after dinner, or a Mount Beacon hiker who decides to stop at the Dutchess Manor Visitor Center.
- **Shifted Use** – Who is using destinations along the trail who will decide to change their visit to a Fjord Trail experience? For example, someone who might typically take a hike on Bull Hill each Saturday, might now decide to walk on the Fjord Trail instead. They would have come to the trail corridor anyway, but now they are exploring Fjord Trail instead of taking their usual hike or walk. This could also be a cyclist who would have stayed on 9D in the past, but now uses the trail instead to avoid going through the tunnel.
- **New Use** – Who might come just to visit the Fjord Trail? This could be someone coming who has never come to the area before or someone who typically uses the trails a few times a year that now might come more often. One example could be a local family with young kids going for a bike ride. They wouldn't have done that in this corridor before, but now that there is a safe off-road trail, they go for a family ride. It could also be a visitor from outside the neighboring communities who hears about a new trail and wants to check it out. Even if they go for ice cream or pizza afterwards, the primary reason they left their house that day was to visit the Fjord Trail and if the trail wasn't here, they would not have made the trip.

As we discuss visitation, remember that we're counting unique visits, by locals and non-locals, across the full 7.5 miles, through an entire year, not the total number of individual people visiting the shared use path. Again, a single daily runner from Beacon or Cold Spring could generate up to 365 visits over the course of the year. It's important to remember that on average, visitors to the Hudson Highlands area

(including locals), visit an average of over 8 times in one year, so the actual average number of visitors is just one-eighth of the annual visitation.

How many people use parks and trails along the 7.5-mile trail corridor today?

In the context of the Hudson Highlands State Park Preserve, which is already a popular destination for outdoor recreation users, it is important to first determine current use levels prior to projecting the impact of Fjord Trail on user volumes and patterns. This starts with an understanding of the existing use patterns at key locations along the trail corridor. In the Fjord Trail project corridor, there are two types of locations:

1. **Parks** – Long Dock Park, Dennings Point, Madam Brett Park, Little Stony Point, and Dockside Park
2. **Trails** – Notch Trail, Wilkinson Memorial Trail, Breakneck Trail, and Washburn Trail

HOW WAS CURRENT USE ESTIMATED?

Breakneck Ridge Counts

Daily visitation data has been collected for Breakneck Ridge by the NYNJTC trail stewards between Memorial Day and Indigenous Peoples Day from 2016 to 2023. Since this is the most extensive historical data for any of the adjacent parks and trails, those seasonal numbers were used to extrapolate annual hiker counts for the trailhead.

A total of 207 weekend days and 54 weekdays were counted over the six-year period between 2016 and 2023. Because the stewards are only on site on weekends and holidays during the warmer months, two estimates need to be added to these counts to establish an estimate of annual visitation. First, we need to estimate the number of hikers who may have come during weekdays when the stewards were not on site. Second, we need to estimate the number of hikers who hiked during the shoulder and off seasons (November to Memorial Day). The following table shows the resulting estimated annual hiker counts for Breakneck Ridge for 2016 through 2023:

Year	Estimated Annual Hikers
2016	113,000
2017	123,000
2018	106,400
2019	128,800
2020	126,200
2021	87,700
2022	91,600
2023	91,900

Figure 1 – Breakneck Ridge Trail Annual Visitation

Statistical regression analysis was used to estimate daily hiker counts for all days between Memorial Day and the end of October that were not included in the steward counts.[1] The fall days (in September and October) generally had higher daily visitation than the summer days (June through August), due to the draw of the fall foliage. The data was grouped accordingly (i.e., Memorial Day through August and September through October for each year) to establish the statistical correlations. Multivariate regression equations were developed and used to estimate daily hikers for all uncounted days from Memorial Day weekend through October, based on the average temperature and total rainfall for each day. Monthly hiker count estimates were developed for the Memorial Day to end of October period for each year by summing the daily estimates. Based on the monthly visitation data obtained for several years at three comparable venues[2], estimates were then developed for Breakneck Ridge Trail visitation during the November to May period for each year. These estimates accounted for the impact of temperature.

Data gathered for other Hudson Highlands area locations

Between May and October of 2023, ORCA staff were in the field gathering data at the remaining Hudson Highlands parks and trailheads in the proposed Fjord Trail corridor. This study documented hourly/daily visitation and People At One Time (PAOT) counts for the existing parks and trails adjacent to the planned Fjord Trail route. The resulting daily visitation levels were compared with those for Breakneck Ridge Trail for the same days to establish visitation ratios for each destination:

- Long Dock Park: (visitation averages 0.60 times Breakneck Ridge hiker counts)
- Madam Brett Park: (0.13)
- Dennings Point: (0.143)
- Notch Trail: (0.039[3])
- Wilkinson Memorial Trail: (0.31)
- Washburn Trail: (1.23)[4]
- Little Stony Point: (0.80)

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[1] Temperature and rainfall data were used for the regression analysis because similar analyses of other trails and parks where daily data is available for multiple years (Buffalo Valley Trail, Susquehanna River Walk, and Walkway Over the Hudson) show that the daily and monthly visitation counts are highly correlated to both temperature and rainfall. The temperature used for analysis was actually the "feels like" temperature, which incorporates the heat index, wind chill factor, and other weather variables into a composite temperature factor. The regression correlation factors (R^2 values) determined in the analysis were all low, but significant; indicating that there are other variables that affect visitation in addition to temperature and rainfall – these were not identified and quantified as part of this analysis. Note that several alternative regression approaches were considered, including regression of all years combined, years grouped by similar visitation levels, and weekly visitation vs. temperature. The highest correlations were achieved by analyzing daily visitation for each year, separated into Summer (May through August) and Fall (September through October).

[2] These comparable venues were: Walkway Over the Hudson, Buffalo Valley Trail, and Susquehanna River Walk. ORCA was able to analyze daily visitation data across multiple years at each of these locations.

[3] Notch Trail was not included in the 2023 visitor utilization studies. The indicated factor is actually based on the stated lot capacity of 5-6 vehicles and an assumption that full lot utilization occurs on the Design Visitation Day (the Design Visitation Day represents a busy day during a high visitation month, such as May or October). Note that this hiker estimate includes only those using the Notch parking area on SR 9D.

[4] It is interesting to note that, during the 2023 study days, Washburn Trail typically had higher hiker counts than Breakneck Ridge, though Breakneck is commonly regarded as being more popular. This could be accounted for in part due to the Breakneck Ridge Trailhead closure during the months of March – June.

- Dockside Park: (0.58)

Applying these ratios to the estimated Breakneck Ridge Trail visitation for 2023 results in the following estimates for each of these parks and trails:

Park and Trail Use (2023)

Parks	Estimated 2023 Visitation
Long Dock Park	55,100
Madam Brett Park	12,100
Dennings Point	13,100
Little Stony Point	73,700
Dockside Park	53,100
Trails	
Notch Trail	3,600
Wilkinson Memorial Trail	28,500
Breakneck Ridge Trail	91,900
Washburn Trail	113,300
TOTAL	**444,400**

Figure 2 – estimated annual visitation for trails & parks within to Fjord Trail corridor

VARIABLES AFFECTING USE

Visitation to parks and trails is very weather-dependent. This means that cold snaps lasting several days or even an entire season, as well as rainy days, can suddenly become lower-visitation days despite being in a traditionally peak period. In 2023, there were a number of variables impacting use including Canadian wildfires, heat waves during summer, and a fall with many rainy weekends. In any given year, these variables exist in one form or another, and there is no “normal” year for outdoor recreation.

Since annual hiker data for Breakneck Ridge are available from 2016 through 2023, the variation in annual visitation can be studied. Since the visitation estimates for 2022 and 2023 were very close, the visitation for 2023 was used as the basis for analysis to represent the existing visitation conditions. Note that visitation for these two years was very similar and was higher than visitation in 2021, but was significantly lower than the peak 2019 and 2020 years.

VISITATION PATTERNS BY SEASON AND TIME OF DAY

Visitation patterns to parks and trails also vary by season and the time of day. These patterns tend to be very different for parks compared to trails. Typically, visitation for trails is higher in the morning hours, as hikers plan to give themselves ample time to complete their hike and also to avoid the afternoon heat or getting caught in the dark. Field observations show that the peak hour for hiker arrivals to trails in the project corridor is typically 10 to 11 AM. Visitation to the parks tends to be low during the morning hours, and gradually builds over the afternoon hours as park users participate in a wide variety of leisure activities, peaking between 2 PM and 5 PM.

Seasonal use of parks and trails are both highly dependent on weather conditions – temperature and precipitation. Because conditions tend to be mild during the month of May, visitation is typically high, especially for the trails. October tends to experience some of the highest visitation days due to the draw of the fall foliage for both parks and trails, but also can experience very low visitation when weather conditions become colder or rainy. Summer typically experiences sustained visitation for parks and trails that are somewhat lower than May and October, but this varies considerably based on weather conditions. During late fall, winter, and early spring, visitation typically is low due to the cold temperatures and shorter daylight windows. The following table shows the estimated monthly distribution for the combined parks and trails in the Hudson Highlands area by month:

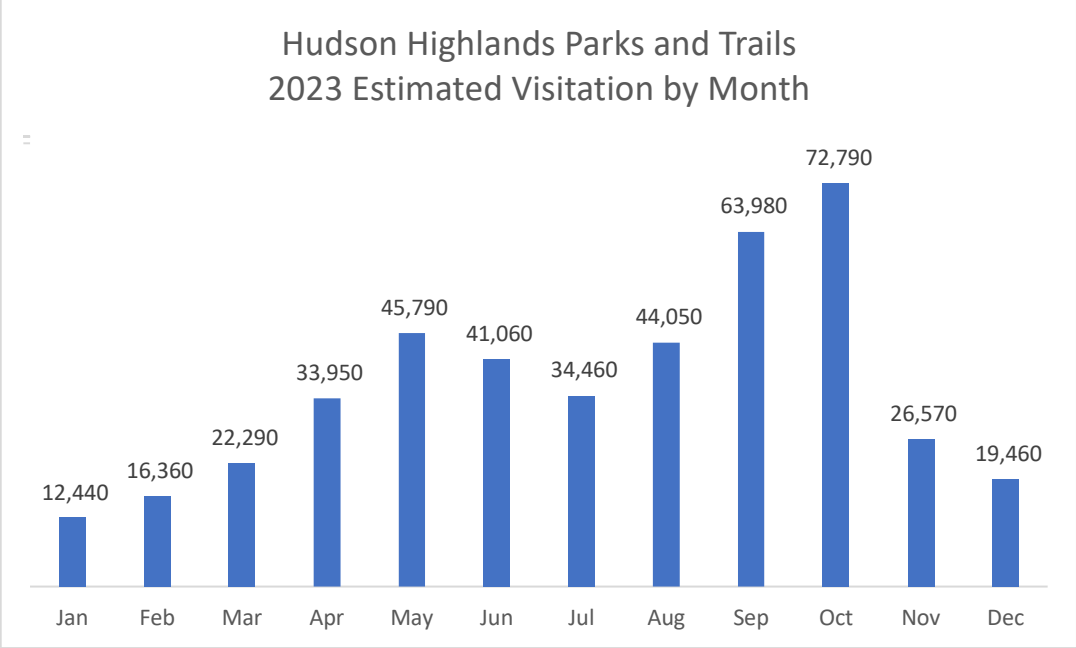

Figure 3 – Hudson Highlands Parks and Trails estimated existing visitation by month (2023)

As the above chart shows, there are some months that experience significant visitation levels, such as September and October, while visitation levels are low for a large part of the year – November through April.

What would future visitation look like without Fjord Trail?

The proposed Fjord Trail would be developed and opened in phases over time, with completion anticipated by 2031. Because the first year of a new facility opening tends to draw a larger crowd due to the novelty and curiosity of a new leisure destination, the remainder of 2031 and all of 2032 would be considered a surge year, with higher than normal visitation. We therefore are projecting annual visitation through the year 2033 at which point the visitation will have leveled off closer to what the sustained annual use will be. For the purposes of comparing what conditions would be like with or without the trail, we therefore have to look out to the same year in the future.

REVIEW OF BREAKNECK RIDGE TRENDS

Breakneck Ridge Trail counts show that visitation has been extremely variable over the past eight years. Prior to COVID, trail counts had been on the rise on an annual basis with the exception of 2018, which

experienced a very cool and rainy summer. Trailhead counts peaked at 128,800 hikers at Breakneck in 2019, the final season before COVID shutdowns. The number stayed close to that level the following year with shutdowns staying in effect, indicating that people seeking to get out of the house in the face of shutdowns opted to get together with friends to spend time outside with activities like hiking. Note that train ridership was low during the shutdown period, so it is likely that a higher portion of the hikers arrived by car than for a typical prior year, contributing to traffic congestion along Route 9D and in Cold Spring. Once other shutdown restrictions were lifted and art and culture venues reopened, the number of Breakneck Ridge hikers plummeted and still has not recovered from the peak levels experienced in 2019 and 2020.

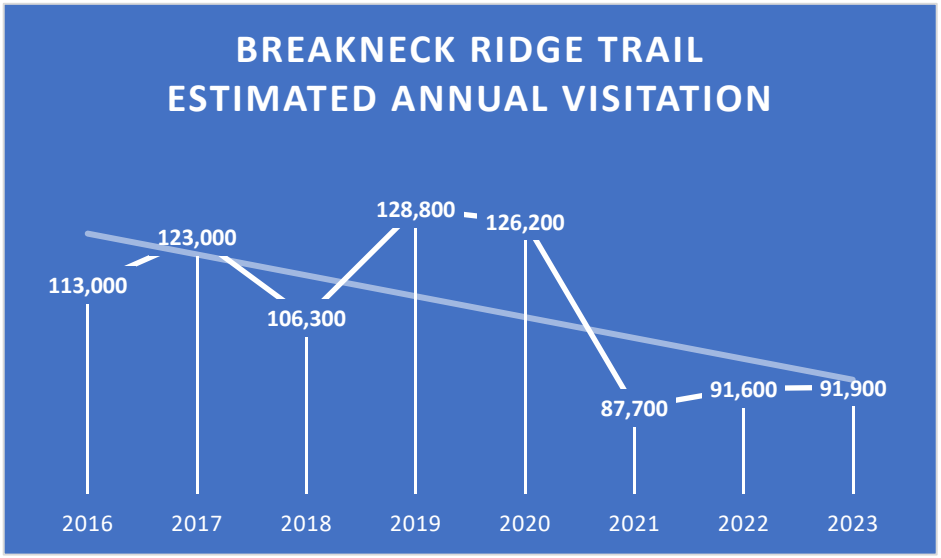

Figure 4 – Breakneck Ridge Trail Annual Visitation: 2016 to 2023

The overall trend from 2016 to 2023 showed an average annual decrease of over 4,300 hikers (a 4% annual decrease) possibly a result of a shift in hikers from Breakneck Ridge Trail to Washburn Trail. However, there was an increase in 2019 and 2020 from the previous three years, so for analysis purposes, it is assumed that this 4% decline will not continue in future years and that Breakneck Trail should not be used as a predictor of future visitation to the Hudson Highlands area.

REVIEW OF REGIONAL AND COMPARABLE PROJECT TRENDS

While the number of hikers at Breakneck has decreased in recent years, what do outdoor park and trail trends show for the larger region? Visitation has been consistently increasing at the following comparable parks and trails shown in the following table:

Park / trail	Average Annual Increase: 2016 to 2023
Eastern U.S. National Parks	3.3%
Taconic & Palisades Regions State Parks	2.4%
Hudson Highlands State Parks Preserve*	5.1%
Walkway Over the Hudson	2.1%
Average	**3.2%**

Figure 5 – Comparable parks & trails annual visitation increase

* Hudson Highlands State Parks Preserve average annual increase from 2017 to 2023 was used due to an anomalous increase in visitation from 2016 to 2017.

Note that 2016 was selected as the starting year for the growth trend analysis for each of the above comparables except for Hudson Highlands State Parks Preserve where a 51% visitation increase was reported from 2016 to 2017 – it is probable that this substantial increase was due to factors other than a natural increase in market demand, such as changes in the visitation estimation methodology. Since the comparable data from 2017 through 2023 showed better stability for HHSPP, this range was chosen as the basis for projections for that venue.

The overall average increase for all of the comparable parks and trails shown in the above table is 3.2% annually.

DEFINING A PROJECTION RANGE

Existing annual visitation to the parks and trails within the Hudson Highlands area and adjacent to the Fjord Trail corridor[5] is estimated at 444,400, and will continue to change in future years in response to both population and economic factors. We therefore look at visitation projections on a sliding scale from low to high:

- For the **low-end estimate**, visitation is projected to increase from 444,400 (2023) to 517,700 (2033), a 16% increase over 10 years. The low-end estimate is 15% lower than the mid-range estimate[6], and is still significantly higher than the expected 2% change in population of the source counties and states that comprise visitation to the Hudson Highlands area[7].

[5] Adjacent parks and trails include Dockside Park, Little Stony Point, Washburn Trail, Breakneck Ridge and Wilkinson Memorial trails, Notch Trail, Madam Brett Park, Dennings Point, and Long Dock Park.

[6] To account for the uncertainty factor of unknown variable affecting visitation that cannot be predicted, such as economic conditions and leisure activity trends, a +/-15% range was applied to the mid-range visitation projections. For typical projects in which projected people volumes are used, such as leisure venues and office buildings, a 5% to 10% range is typically used – considering the likely higher level of uncertainty regarding visitation for the Fjord Trail project, a higher range was used.

[7] There were 43 counties identified as sources of visitation to Fjord Trail, including counties in New York, Connecticut, Massachusetts, Delaware, Rhode Island, and New Jersey; along with some visitation from 8 other states. Two-thirds of the visitation is expected from five New York counties – Kings, Queens, Dutchess, Putnam, and Orange counties.

- For the **mid-range estimate**, visitation is projected to increase from 444,400 (2023) to 609,000 (2033), a 36% increase over 10 years, as a direct result of increasing public interest in outdoor leisure activities, continuing at a 3.2% annual increase over the 10-year planning timeline.
- For the **high-end estimate**, visitation is projected to increase from 444,400 to 686,800 by 2033, a 58% increase over 10 years. The high-end estimate is 15% higher than the mid-range estimate.

"NO-DEVELOPMENT" SCENARIO

Using the low-, mid-, and high-projection assumptions for year-to-year visitation change as described above, annual visitation projections were developed for each trail and park destination along the proposed trail route. Collectively, these total the projected visitation for the Fjord Trail corridor area under a "no-development" scenario.

For the no-development scenario, the total change in annual visitation from 2023 to 2033 ranges from +16% for the low-range estimate to +58% for the high-range estimate.

	No-build Scenario Combined Visitation at adjacent parks		
Year	Low Estimate	Mid-range Estimate	High Estimate
2023	*444,400*	*444,400*	*444,400*
2024	389,600	458,400	527,200
2025	402,100	473,000	544,000
2026	415,000	488,200	561,400
2027	428,200	503,800	579,400
2028	442,000	520,000	598,000
2029	456,100	536,600	617,100
2030	470,700	553,800	636,900
2031	485,800	571,500	657,200
2032	501,300	589,800	678,300
2033	517,700	609,000	700,400

Figure 6 – Combined projected visitation for parks and trails adjacent to Fjord Trail corridor: low-, mid-, and high-end estimates

How many more people would we expect with the Fjord Trail?

Total annual visitation to Fjord Trail at full buildout in 2033 is estimated at 637,000 (mid-range visitation estimate) to 732,600 (high-end estimate), including those visitors that just pass through on their way to other adjacent parks and trails.

These components do not add new visits

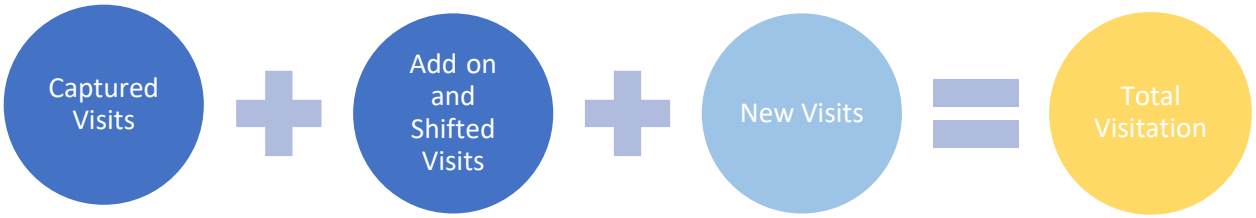

Figure 7 - Total annual visitation to Fjord Trail is the sum of the above three visitor categories - visits include both local residents and out of town users

CAPTURED VISITS

It is expected that all visitors traveling to Breakneck Ridge Trail, Wilkinson Memorial Trail, and Dennings Point Trail will pass through Fjord Trail as a convenient access route, and that 26% of visitors to Washburn Trail and 40% of visitors to Little Stony Point will also use the trail (the majority of visitors to Washburn Trail and Little Stony Point traveling by private vehicle will park in the Washburn lot, while the majority of train visitors to Washburn Trail will use Fjord Trail).

Captured Visitation: An additional 225,900 (mid-range estimate) to 259,800 (high-end estimate) users will take advantage of Fjord Trail as a convenient access route to their chosen activity destination (Washburn Trail, Little Stony Point, Breakneck Ridge Trail, etc.)

These users DO NOT contribute to new visitation in the Hudson Highlands area.

TRIP "ADD-ON" AND SHIFTED VISITS

Survey results show that the average visitor to the Hudson Highlands area visits two major activity areas during their daily visit. Thus, it is expected that many visitors will add Fjord Trail to their already-planned visit to an adjacent park or trail – 110,500 for the mid-range estimate and 127,100 for the high-end estimate. The total percentage of add-on visits, shifted visits, and new visits from existing users is based on the 2023 user survey responses where users indicated their intention to visit Fjord Trail, as shown below in Figure 9.

Shifted Visitation: – Since the Fjord Trail will be a different type of experience than those of the existing parks and trails, the shift from these parks and trails will be relatively low. It is assumed that 5.24% of the existing users will shift their visits from the adjacent parks and trails to Fjord Trail – 31,900 for the mid-range estimate and 36,700 for the high-end estimate.

It is estimated that a total of 142,400 (mid-range estimate) to 163,800 (high-end estimate) visits to Fjord Trail will be either shifted from the adjacent parks and trails within the Hudson Highlands area, or added on to visits to these parks and trails, and **does not contribute to new visitation** in the Hudson Highlands area.

What informs added and shifted assumptions?

A survey was conducted from May through October 2023 to identify and quantify the visitation behavior of existing users of the parks and trails within the Fjord Trail corridor, and stated preferences regarding their existing and future trip itineraries. The survey included local residents as well as visitors from distant origins. Although the users from distant origins were the most prevalent (57% of all survey respondents), local residents also were well represented, as evidenced by the fact that 2/3 of the Putnam County residents surveyed made use of the Hudson Highlands parks and trails.

Users of adjacent parks and trails who will also visit Fjord Trail ("add-on" and shifted visits)

A large portion of the visitation to Fjord Trail will come from users of the adjacent parks and trails who extend their visit to include Fjord Trail. The following table summarizes the percentage of users for each park and trail and downtown area that indicated they would plan to visit the Fjord Trail:

Activity Area	% of users that said they will also visit Fjord Trail
Breakneck Ridge Trail	59%
Wilkinson Trail	59%
Washburn Trail	50%
Notch Trail	58%
Little Stony Point	75%
Madam Brett Park	23%
Dennings Point Trail	21%
Dockside Park	43%
Long Dock Park	15%

Figure 8 – Percentage of survey respondents indicating that they will also visit Fjord Trail

NEW VISITS

As part of the total annual Fjord Trail visitation, 268,700 (mid-range) to 309,000 (high-end) visits will be **new visits** to the Hudson Highlands area. These fall into two categories:

1. People who currently visit but would do so more often if there was more to explore.
2. People who do not currently visit, but would if the trail were built.

1. Existing users of adjacent parks and trails who will increase their visitation frequency to visit Fjord Trail

The 2023 user survey included questions to evaluate the potential increase in visitation frequency that will be generated by the proposed Fjord Trail and associated activities. For existing users included in the survey, the analysis indicates that their overall visitation frequency will increase by 16.3%. Applying this percentage to the combined visitation for the adjacent parks and trails results in the following Fjord Trail visitation projections for full build-out (2033):

Year	Low Estimate	Mid-range Estimate	High Estimate
2033	88,500	104,100	119,700

Figure 9 – Fjord Trail projected visitation due to increased visitation frequency: full build-out (2033)

2. People who do not currently visit

The addition of Fjord Trail will serve to increase penetration into the existing visitor markets. Currently, the under-55 age category is well represented by the existing users (88% of the existing users compared to 68% of the population), while the 55 & older market is under-represented (12% of the existing users compared to 32% of the population). It is also anticipated that Fjord Trail will appeal to the family market and will experience increased visitation over what would be experienced at the Hudson Highland area trails for the no-development scenario. Thus, it is expected that the market penetration for new visitors will be incrementally higher for both the 55 & older market and the family market. As an estimate for new visitation to Fjord Trail, it is assumed that new visitation for Fjord Trail will equal 70% of both the 55 & older visitation and family visitation (from the local area / 25% of the over-55 and family visitation from distant origins) to the adjacent parks and trails, plus 16% of the under-55 visitation to the adjacent parks and trails for local visitors / 7.5% for distant visitors.

Also, the opening of Dutchess Manor as the HHFT visitor center is estimated to draw an additional 36,000 annual new visitors who will come primarily to visit this site due to its historic nature and amenities/programming (based on the comparable historic sites shown in the following table).

Comparable Venue	Comparable Years	Average Annual Visitation
Sonnenberg Gardens and Mansion	2019, 2021, 2022	34,911
Herkimer Home	2020, 2022	36,137
Average		35,524
Projected incremental visitation for Dutchess Manor		**36,000**

Figure 10 – comparable historical sites to Dutchess Manor

Applying these percentages to the projected visitation to the adjacent parks and trails for full build-out (2033) results in the following projections for people who do not currently visit:

Year	Low Estimate	Mid-range Estimate	High Estimate
2033	139,900	164,600	189,300

Figure 11 – Visits from new Fjord Trail visitors in 2033

Visitors using bicycles: based on visitor surveys conducted during 2023, 56% of survey respondents indicated that they were interested in bicycling at Fjord Trail, along with an average of 3.0 other types of activities. Assuming that the potential bicyclists will participate in bicycling during one out of four visits, it is estimated that 14% of the non-hiking related visitors will include bicycling as part of their Fjord Trail

experience. Applying this percentage to the above visitation projections results in the following estimates:

- Annual new visitation by visitors participating in bicycling: 37,600
- Annual other visitation by visitors participating in bicycling: 9,300
- Total annual visitation by visitors participating in bicycling: 46,900

On the Design Day, 300 visitors can be expected to participate in bicycling; with 460 visitors on the Peak Day. Note, however, that most of these visitors will continue to arrive by travel modes other than bicycle, but will either bring their bikes with them or rent them near or at the Fjord Trail. Note that these visitors are included in the total visitation estimates shown in Figures 11 above and Figure 12 below.

Total Visitation: Combining the attendance components described above, the following table summarizes the total projected visitation to Fjord Trail for 2033:

Visitation component	Low Estimate	Mid-range Estimate	High Estimate	Reference
New visitation				
Visitation from increased visitation frequency	88,500	104,100	119,700	Figure 9
Visitation from new users (including Dutchess Manor)	139,900	164,600	189,300	Figure 11
Subtotal new visitation	**228,400**	**268,700**	**309,000**	
Other visitation				
Shifted visitation from the adjacent attractions	27,100	31,900	36,700	see "Shifted Visitation" section above
Users of adjacent attractions that will also visit Fjord Trail ("crossover" visits)	93,900	110,500	127,100	see "Shifted Visitation" section above
Captured visitation	192,000	225,900	259,800	see "Captured Visitation" section above
Subtotal "other" visitation	**313,000**	**368,300**	**423,600**	
Total Fjord Trail Visitation	**541,400**	**637,000**	**732,600**	

Figure 12 – Fjord Trail 2033 visitation by component

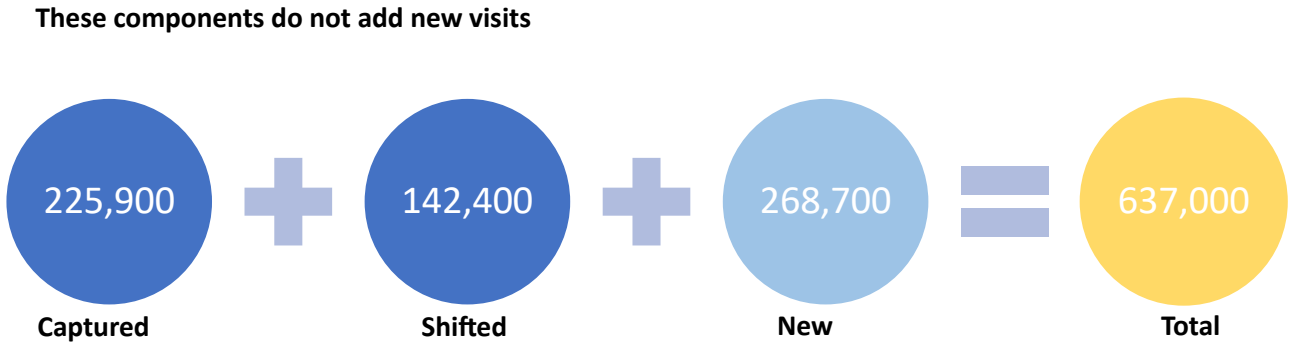

Figure 13 - Total annual visitation to Fjord Trail, mid-range estimate in 2033

TOTAL VISITATION TO FJORD TRAIL REGION

With the full build-out of Fjord Trail, total annual visitation in the Hudson Highlands area (i.e., the Fjord Trail and adjacent parks and trails) is estimated to increase by 44% over the projected future visitation without Fjord Trail, from the estimated 2033 no-development visitation of 609,000 to a new total of 877,700 for the mid-range visitation projection (see following table).

	Low Estimate	Mid-range Estimate	High Estimate
No-development visitation	517,700	609,000	700,400
Fjord Trail new visitation	228,400	268,700	309,000
Total visitation to Hudson Highlands area	**746,100**	**877,700**	**1,009,400**

Figure 14 – Total visitation to the Hudson Highlands area (Fjord Trail and adjacent parks and trails)

Daily and hourly visitation: Based on the expected visitation distribution by day and hour, the following table summarizes the projected Fjord Trail daily and peak hourly visitation for the mid-range scenario, along with the expected range based on the low-end and high-end scenarios:

	Average Day	Design Day	Peak Day
Daily Visitation			
Mid-range estimate	1700	4100	6300
Range: Low - High	1450-1960	3490-4720	5360-7250
Peak Hour Arrivals			
Mid-range estimate	303	732	1124
Range: Low - High	258-349	622-842	956-1293

Figure 15 – Fjord Trail 2033 daily and peak hour visitation

The following table summarizes the total visitation to the Fjord Trail area, including visitation shown in the above table, plus the adjacent parks & trails:

	Average Day	Design Day	Peak Day
Daily Visitation			
Mid-range estimate	3000	7100	10900
Range: Low - High	2550-3450	6040-8170	9270-12540
Peak Hour Arrivals			
Mid-range estimate	535	1267	1946
Range: Low - High	455-616	1077-1457	1654-2237

Figure 16 – Fjord Trail area 2033 daily and peak hour visitation

In the above table, the Design Day represents a busy weekend day during September, and the Peak Day represents a busy day during the peak fall foliage season. The peak arrivals typically occur during the 10 to 11 AM hour.

The following table summarizes the incremental visitation to the Fjord Trail, i.e., the additional visitation generated by the Trail itself:

	Average Day	Design Day	Peak Day
Daily Visitation			
Mid-range estimate	740	1710	2660
Range: Low - High	630-850	1450-1970	2260-3060
Peak Hour Arrivals			
Mid-range estimate	132	347	539
Range: Low - High	112-152	295-399	458-620

Figure 17 – Fjord Trail incremental 2033 daily and peak hour visitation

Visitation by travel mode: Based on the documented visitation by arrival mode for existing visitors to the Hudson Highlands area, the following table summarizes the projected daily and peak hour visitation to Fjord Trail by travel mode for the Design Day and Peak Day for the mid-range scenario:

	Design Day		Peak Day	
Travel Mode	Daily visitation	Peak Hour visitation	Daily visitation	Peak Hour visitation
Private vehicle	3060	337	4690	516
Train	780	367	1200	564
Bike	30	3	50	6
Walk & Seastreak	230	25	360	40
Total	**4100**	**732**	**6300**	**1125**

Figure 18 – Visitation by travel mode for 2033

Note that the figures in the above table, including private vehicles, represent the number of individual people, rather than number of vehicles.

The following table shows the incremental daily and peak hour Fjord Trail incremental (new) visitation by travel mode for the Design Day and Peak Day for the mid-range scenario:

	Design Day		Peak Day	
Travel Mode	Daily visitation	Peak Hour visitation	Daily visitation	Peak Hour visitation
Private vehicle	1275	178	1983	278
Train	325	153	506	238
Bike	13	2	21	3
Walk & Seastreak	97	14	150	21
Total	**1710**	**347**	**2660**	**539**

Figure 19 – Fjord Trail incremental visitation by travel mode for 2033